JOURNAL

OF THE

ASIATIC SOCIETY OF BENGAL.

Part II.—PHYSICAL SCIENCE.

No. III.—1879.

XIV.—*Notes on a collection of Reptiles made by* Major O. B. St. John, R. E., *at Ajmere in Rájputána.*—*By* W. T. Blanford, F. R. S., &c.

(Received and read August 6th, 1879.)

The following is a list of the reptiles obtained by Major St. John in the neighbourhood of Ajmere during about three years of residence. Most of the species were identified by the discoverer, but nearly all were sent to me for comparison. The list is small, and the fauna of the country is evidently poor, but still all local lists of this kind are of importance, especially if they approach completeness, as they afford very valuable aid towards a knowledge of distribution. In this list, for instance, I find that two species occur, *Cynophis helena* and *Python molurus*, belonging to two genera the existence of which in any part of Central or Northern India I previously thought extremely doubtful.*

The species marked with an asterisk are inserted from information sent to me by Major St. John, as I have not seen specimens. All others have been examined by myself.

*1. Testudo elegans.

*2. Crocodilus, sp. Major St. John writes: "Crocodiles (*C. palustris*, I suppose) are very numerous in the natural lake of Pushkar (or Pohkar) 6 miles from Ajmere. Some are also found in the artificial lake at Ajmere called the Anaságar; they are said not to breed there, but to

* Ann. Mag. Nat. Hist., October 1876, Ser. 4, Vol. XVIII, p. 292.

find their way over the ghat from the natural lake. I cannot hear of the existence of Crocodiles elsewhere in these parts, though they are found in a small tank in the Chittore hill fort, 100 miles to the south."

I identified the species found in Sind with *C. palustris*, and it is not improbable that the Ajmere crocodile may be the same. We are badly in want of a careful collection and comparison of Indian crocodiles; small specimens 2 or 3 feet long would be of service.

3. Varanus lunatus?

Three young specimens have been sent to me by Major St. John; they are respectively 19, 14 and 8½ inches long. In the first I count 114 scales from the gular fold to the loin, in the second 98, in the third 104. Owing to the irregularity of the anterior scales, the number is not quite constant, but having counted the rows in each case two or three times, I only find a difference of one or two.

The colouration is also different in all three. The largest specimen is much darker than the others; yellowish brown in spirit, with small black spots more or less regularly arranged in transverse lines on the back, and narrow blackish cross lines on the neck. A few white spots, generally very small, are scattered quite irregularly over parts of the back, sides, limbs and tail. A black line from the back of the eye over the ear to the side of the nape.

The next specimen is paler yellowish brown, with cross rows of small white ocelli alternating with rows of dark spots throughout the back, and with somewhat irregular broad bands on the tail. The black line from behind the eye is less distinct.

In the smallest specimen, the ground colour is still paler, numerous dark bands cross the back and alternate with rows of minute white dots: on the tail the dark bands form rings, and are much broader than on the back; on the back of the neck the dark lines are V-shaped, the angle being directed backwards. The dark marks running back from the eyes meet on the nape, and form the first cross band. There are imperfect dark cross lines on the chin and throat.

The question arises to which species these monitors should be referred. *Varanus flavescens* and *V. nebulosus* are quite different, and it is clear that the Ajmere specimens, if they belong to a described form, must be either *V. dracæna* or *V. lunatus*. The distinctions between these species are variously described by different naturalists. Gray's original description of *Varanus lunatus*, in the *Catalogue of the Specimens of Lizards in the Collection of the British Museum* (1845) p. 10, runs thus:

"Nostrils large, nearly central, (*i. e.*, between the eye and muzzle,) shields over orbit small, subequal; dark brown, with lunate bands, directed backwards on the neck

and forwards on the body, and with cross bands on the tail; belly and under side of tail whitish."

While *V. heraldicus*, as Gray called *V. dracæna*, was thus described:

"Black with cross rows of pale-eyed spots, beneath pale, black-banded; shields over the orbits small, subequal."

The distinction, it will be seen, depends solely on colouration, and I may add that the colour assigned to *V. dracæna* is not that of a typical example by any means. In Günther's "*Reptiles of British India*," the differences are far better explained. *V. dracæna* is said to have the ventral scales in 90 transverse series between the gular fold and the loin, and the neck without angular dark cross bands. In *V. lunatus* the ventral scales are said to be in 105 transverse series, and the neck to be marked with dark angular cross bands, their points being directed backwards. The following is the description of the colouring of *V. dracæna*:

"Brownish olive, uniform or generally with more or less numerous black dots, each of which occupies a scale; these dots are sometimes arranged in irregular transverse series and are most numerous on the throat: young specimens shew numerous small white ocelli edged darker, whilst the lower parts are marked with irregular dark transverse bands."

It is mentioned that a young specimen from the Anamullay mountains (probably from the base, not the top of the hills) shews narrow black bands across the neck, "but they are much narrower than in *V. lunatus* and rather irregular." The colouration of *V. lunatus* is said to be—

"Neck, trunk, and tail marked with cross bands, which are as broad as the interspaces of the ground colour; these bands are angular on the trunk and neck, with the angle directed backward on the neck and forwards on the trunk—four on the neck, eleven on the trunk. Sides and legs dotted with white."

The single specimen in the British Museum, from which Gray's and Günther's description was taken, is stuffed and 25 inches in length, so that it is not in all probability full grown. It is said to have come from India, but no further information is available as to the locality. I examined this skin some years ago, when comparing the specimen from Baluchistan described in *Eastern Persia*, Vol. II, p. 360, but I could detect no character to be added to those noticed by Günther.

The matter remained thus till ten years ago. Then Carlleyle stated that both *V. dracæna* and *V. lunatus* occurred commonly near Agra, and that neither of them were "water-lizards." (J. A. S. B., 1869, Pt. 2, p. 195.) Next Jerdon (P. A. S. B., March, 1870, p. 70,) stated that he found *V. lunatus* in the Museums at Delhi and Lahore. Anderson, (J. A. S. B., 1871, Pt. 2, p. 30,) recorded the receipt, by the Indian Museum, of *V. dracæna* from Calcutta, Agra, the Khási Hills and Assam, and of *V. lunatus* from Agra and Goalpara (Assam). Dr. Stoliczka identified

the species found in Kachh with *V. dracæna* (P. A. S. B., 1872, p. 73,) and I similarly referred a Baluchistan specimen to the same species.

Lastly Theobald, in his "*Descriptive Catalogue of the Reptiles of British India*," 1876, p. 38, does little more than copy Günther's characters, but gives the additional localities subsequently recorded. In his Synopsis, at the end of the volume, he distinguishes *V. dracæna* as having the body black dotted, and *V. lunatus* as having the same yellow dotted; a distinction, I may at once add, with which I am unable to coincide.

So far as I know, no other specimen having the peculiar colouration exhibited by the type of *V. lunatus* has been observed. The colouration, of the neck especially, is peculiar and is shewn in Günther's plate. All who have endeavoured to discriminate the species in India have, I think, depended on the number of rows of ventral scales, specimens with less than about 95 rows (or to speak more correctly about 70 to 75 rows on the abdomen, and 20 to 25 scales less regularly arranged on the breast) have been referred to *V. dracæna;* those with 100 or more to *V. lunatus.* Stoliczka, however, referred Kachh specimens with 90 to 100 rows to *V. dracæna,* and I myself, after comparing a specimen from Baluchistan having 107 rows with the series in the British Museum, came to the conclusion that it must be classed with the same species. At the same time I expressed a doubt whether *V. lunatus* was more than a variety of *V. dracæna.*

On the other hand there is considerable reason for believing that the common *Varanus dracæna* of Bengal and Assam is a water lizard, inhabiting marshy places and entering the water freely like *V. flavescens.* The monitors of the North-West Provinces of India, of parts of Southern and Western India are purely terrestrial, as has been noted by several observers. Many of these terrestrial lizards have been classed by various writers as *V. dracæna,* and the question arises whether two species have not been confounded under this name. A second question is, whether the terrestrial lizard is not *V. lunatus.*

In the hope of determining this point, I examined all the Indian Museum specimens, which Dr. Anderson kindly placed at my disposal. The result is far from decisive, but it does appear probable that two well marked forms exist, the one inhabiting Bengal and Assam, the other ranging through the greater portion of the Indian Peninsula. The number of ventral scales is not sufficiently characteristic to serve as a distinction, although the form from the North West Provinces and Western India has decidedly smaller scales, both above and below, than the Eastern race. Indeed I have sought in vain for any well-marked character to distinguish these two. So far as I can see, the adults are easily discriminated by

colouration, and by the form of the dorsal scales. Assuming that the western form is *lunatus*, the following appear to be the distinctions.

V. dracæna. Back more rounded, and head higher. Scales throughout larger, the dorsal scales surrounded by granules, the central boss very convex, much longer than broad. The fold above the shoulder and along the side often ill-marked, and in old specimens wanting.

Colouration dusky yellow to greenish olive thickly speckled with black. In the young the dark transverse bands are broad, nearly equal to the interspaces.

V. lunatus? Back nearly flat, and head lower than in *V. dracæna.* Scales throughout smaller, notably so on the labials, and as a rule on the supra-orbital regions. The dorsal scales in adults surrounded by a broad band of granules, the central boss nearly flat, but little longer than broad. The fold above the shoulder running back nearly to the thigh, and forward on the side of the neck, well marked in young specimens, and as a rule in adults.

Colouration brownish olive to yellowish brown. Adults almost uniformly coloured or thinly dotted with black on the upper parts. In the young the transverse bands are narrower than the interspaces (the very young are indistinguishable, however, from those of *V. dracæna).*

It is not certain that the latter species is the true *V. lunatus*, but as that form has smaller scales than the typical *V. dracæna*, the monitor above described may be referred to it. Even now I am far from convinced that the two are absolutely separable

Varanus lunatus (if this be correctly identified) is common near Ajmere.

4. Ophiops microlepis. (J. A. S. B., 1870, Pt. 2, p. 351; 1872, Pt. 2, p. 90; P. A. S. B., 1872, p. 74.) This seem rather a widely-spread form. The present is the fourth locality noticed, the others are Bilaspur in the Eastern Central Provinces, Karharbári in Western Bengal, and Kachh.

5. Euprepes guentheri.

E. monticola, Günther, *Reptiles of British India*, p. 80, Pl. X, fig. C.—Stoliczka, J. A. S. B., 1872, Pt. 2, p. 120.—Theobald, *Desc. Cat. Reptiles Brit. Ind.*, p. 52.

Few people can be more loth to change a name which has subsisted for a considerable time than I am, but I think that this is clearly one of the cases to which the British Association rule, § 11, applies. That rule runs thus:—"A name may be changed, when it implies a false proposition which is likely to propagate important errors." Now the name *monticola* does imply a false proposition, for it indicates that the species so called is a

mountain form; Dr. Günther's information led him to suppose that this scinque inhabited Sikkim at an elevation of 8000 feet. Whence his information was derived is not mentioned, but Dr. Stoliczka was probably correct in attributing it to the Messrs. v. Schlagintweit, whose inaccuracy in these matters is notorious. Since the species was described, Sikkim has been searched by numerous collectors, but not a single specimen of this *Euprepes* has been found. Dr. Stoliczka noticed the improbability of this form occurring in the highlands of Sikkim, where not a single reptile found in the plains of India is known to occur, but he suggests that the specimens may have been procured in the warm valleys. It appears, however, that this scinque is an inhabitant of the dry parts of India. Major St. John has sent it from Ajmere, Mr. Theobald records it from Kálka, at the base of the barren lower Himalayas of the Punjab, and I have met with it in Upper Sind.* Now the fauna of the dry plains of Upper India is widely different from that found in the moist Sikkim valleys, and the only reptiles common to the two are a few species of enormous range, such as *Calotes versicolor* or *Naja tripudians*. I believe, therefore, that *Euprepes monticola*, like *Eryx Johnii* and *Gongylophis conicus*, owes its supposed Sikkim locality solely to an incorrect label, and therefore the retention of the name *monticola* "tends to propagate an important error." Under these circumstances I propose to re-name the species after the original describer, Dr. Günther.

Two specimens of *E. guentheri* have been sent by Major St. John; they agree with Dr. Günther's original description in all essential particulars, and still better with Dr. Stoliczka's. There are 35 or 36 scales round the body, the dorsal scales have two keels, sometimes with a faint third keel between the two stronger ridges; lateral scales with three keels.

E. guentheri is, according to Major St. John, common near Ajmere. It lives under bushes on the hill sides and in sand.

6. Hemidactylus triedrus, *(? subtriedrus)*. (Stoliczka, J. A. S. B., 1872, Pt. 2, p. 93.) The only specimen procured was caught on Táragarh, close to Ajmere. There are unfortunately no specimens for comparison from Southern India in the Museum at Calcutta, and I have no longer those procured near Ellore. In the individual from Ajmere, as in those from Ellore, none of the trihedral tubercles is quite as large as the ear opening. The specimen is, unfortunately, a female, and has no femoral pores. The following are the principal characters.

Back with closely set trihedral tubercles, those in the middle a little

* I have also received from Mr. Wynne a specimen of a scinque procured in Hazára, and probably belonging to this species, but not in sufficiently good preservation to be identified with certainty.

longer than broad and arranged in longitudinal lines, those on the sides broader than long, not very regularly placed. Head above granular, with numerous small round tubercles. Tail with cross-rows of trihedral tubercles above, and broad plates below. Eight upper labials, seven lower; the nostril is separated from the first labial, but is in contact with the rostral; the plates behind the rostral are small; one pair of large chin shields only; about 34 scales across the abdomen. Scales below head and throat and those beneath the feet very small.

The general form is similar to that of *H. triedrus*, as represented in Belanger's "*Voyage;*" the head large and depressed; body stout. The length of the specimen is rather more than $2\frac{1}{2}$ inches from nose to anus, the tail, renewed in parts, is 2 inches long.

Colouration in spirit light brown above, with, on the body, 5 broad transverse yellow, black-edged bands, the margins of which are wavy; the first on the nape without a black edge in front, the hindmost between the hind legs; similar but narrower bands across the upper part of the tail. Sides of head blackish, darker behind the eye than in front, with a pale line from the nostril to the eye continued behind the eye, to the nape, and another line along the upper labials, produced by some whitish tubercles to above the ear.

7. Hemidactylus coctæi.

8. Calotes versicolor.

*9. Chamæleo ceylanicus.

10. Typhlops braminus.

11. Oligodon subgriseus.

12. Cynophis helena. A specimen 41 inches long, agreeing very well with the description in Günther's *Reptiles*, except that the labials are more divided than usual, and the ventral shields more numerous. There are 11 upper labials on each side, the 5th, 6th and 7th entering the orbit; the præocular is large, extending to the upper surface of the head. Loreal divided into two shields, both in contact with the præocular, the anterior square, the posterior smaller, subtrigonal. Anterior frontals as long as broad. Ventrals 254; anal single; subcaudals in 75 pairs, the extreme tip of the tail having been lost.

13. Ptyas mucosus.

14. Zamenis diadema. A large specimen, 61 inches in length, agrees in most characters with Dr. Anderson's description (P. Z. S., 1871, p. 174,) of the form found in the neighbourhood of Agra. There are only 27 rows of scales round the body, the dorsal series being very distinctly keeled, the angulation of the ventrals is faint, and the præocular is divided into two.

The post-frontals are united into one shield, and there are three supplementary shields behind the post-frontal, as in the Persian form, *(Eastern Persia*, II, p. 412,) and not four as is usual in Indian specimens. There are 11 upper labials on one side, and 12 on the other. Ventrals 239 ; anal undivided ; subcaudals in 110 pairs.

The whole upper surface of the head is black, the colour extending in part to the labials, the remainder of the body is pale sandy in spirit, almost cream-coloured, pinkish anteriorly on the back, and dotted here and there with black spots, which are quite irregular both in size and distribution : (see Stoliczka, P. A. S. B., 1872, p. 82.) In life, as I learn from Major St. John, the lower parts were bright salmon pink.

15. Tropidonotus quincunciatus. A single young individual is sent, only 12 inches long. Uniformly coloured above olive-grey in spirits, white below ; even the characteristic black marks from the eye to the labials are wanting, although the posterior band is indicated by a faint dusky line.

16. Psammophis condanarus. The single specimen sent appears to approach the Sind form in some respects, and especially in having the nostril between two shields (Stoliczka, P. A. S. B., 1872, p. 83). But I find in a Sind specimen that the nostril is much smaller, the orifice being diminished by a valvular prolongation of the upper portion of the post-nasal. This form leads again to *P. leithi*, in which, as I have shewn, *(Eastern Persia*, II, p. 421,) there appear to be two post-nasals.

In the Ajmere specimen the principal marking consists of 4 longitudinal equidistant dark-brown, almost black bands, two on the back and one on each side, extending from head to tail ; the two upper bands coalescing on the tail. The bands are equal in breadth to the interspaces. The specimen is young ; it measures only 23 inches, the tail being imperfect.

17. Dipsas trigonata. A small specimen only $15\frac{1}{4}$ inches long, of which the tail is but $2\frac{1}{8}$. The colouration consists of rather irregular white, black-edged patches, having a tendency to form transverse lines on the back. Ventrals 215. The tail is slightly imperfect, but only a very small portion can be missing.

In young specimens of this snake, at all events, the tail does not always amount to a fourth of the length. I find notes of two specimens from the neighbourhood of Ellore, measuring respectively $15\frac{3}{4}$ and $23\frac{1}{2}$ inches, with tails 3 and $4\frac{3}{4}$ inches long, or rather less than one-fifth in each case. In the Ajmere specimen the tail is even shorter, about one-seventh.

This snake was captured amongst stones, and had swallowed a young *Calotes versicolor*.

18. Lycodon aulicus.

19. L. striatus. Two specimens sent, one 11 inches long, the other $9\frac{3}{4}$. Major St. John notices that these snakes had no yellow coloration, and suggests that the tint may be seasonal. His examples were procured early in April.

*20. Python molurus. This, as already remarked, is an unexpected addition to the fauna of Rájputána. The specimen obtained by Major St. John was 10 feet long, and was captured in bush jungle near the Pokur lake among low hills on the edge of the desert.

21. Eryx johnii.

*22. Najá tripudians.

23. Bungarus cæruleus.

24. Echis carinata.

XV.—*Notes on* Reptilia.—*By* W. T. Blanford, F. R. S., &c.

(Received and read 6th August, 1879.)

In the course of the last few years I have received small collections of reptiles from several friends in different parts of India and Burma, and I have collected some myself in Sind and its neighbourhood, and in Darjiling. Although, with the exception of one snake *(Homalopsidæ)* described below, none appear to be absolutely new, there are a few calling for remark on account of rarity, variation, or from the locality being previously unknown. I have thrown together these somewhat desultory notes in the following pages.

LACERTILIA.

Mesalina guttulata (*olim* pardalis).

Dr. Peters informs me that the species identified with *Lacerta pardalis* of Lichtenstein by Dumeril and Bibron *(Erp. Gen.* V, p. 312) and by Gray *(Cat. Liz. Brit. Mus.* 1845, p. 43) is not Lichtenstein's species, but that it is his *L. guttulata*. I believe the original types of Lichtenstein are in the Berlin Museum and have been examined by Dr. Peters.

The species abounds in the countries west of India (*'Eastern Persia,'* II, p. 377), and was described from Sind by Dr. Stoliczka, who supposed it to be a new species which he called *Eremias (Mesalina) Watsonana* (P. A. S. B., 1872, p. 86; see also J. A. S. B., 1876, Pt. 2, p. 26). I have since found it as far to the eastward as Jaisalmir.